

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An organosilane-based composition for producing a barrier layer for gases, comprising:

- (i) at least one organoalkoxysilane whose organofunctionality displays at least one unsaturated hydrocarbon group[[],];
- (ii) at least one aminoalkylalkoxysilane[[],];
- (iii) at least one polyol[[],];
- (iv) where appropriate, another alkoxysilane or alkoxysiloxane[[],]; and
- (v) where appropriate, at least one nano- or microscale semimetal oxide or metal oxide, semimetal oxide hydroxide or metal oxide hydroxide, or semimetal hydroxide or metal hydroxide[[],]; and/or
- (vi) at least one cocondensate composed of the components (i), (ii), (iii), and, where appropriate, (iv), and also, where appropriate, (v) [[],]; and/or
- (vii) reaction products produced under hydrolysis conditions from the components (i), (ii), (iii), and, where appropriate, (iv), and also, where appropriate, (v);
- (viii) and organic solvent, with the proviso that there is a molar ratio (i) : (ii) : (iii) wherein (i) = 1 and (ii) = from 0.5 to 1.5, and (iii) = from 0.3 to 1.1.

Claim 2 (Original): The composition as claimed in claim 1, comprising a component (i) selected from the series vinyltrimethoxysilane, vinyltriethoxysilane, 3-methacryloxypropyltrimethoxysilane, 3-methacryloxypropyltriethoxysilane, 3-methacryloxypropylmethyldimethoxysilane, vinylmethyldimethoxysilane, vinylmethyldiethoxysilane, 3-methacryloxypropylmethyldiethoxysilane, 3-acryloxyprop

1trimeth oxysilane, 3-acryloxypropyltriethoxysilane, 3-acryloxypropylmethyldimethoxysilane, 3-acryloxypropylmethyldiethoxysilane.

Claim 3 (Currently Amended): The composition as claimed in claim 1 ~~or 2~~, which comprises a component (ii) selected from the series group consisting of 3-aminopropyltrimethoxysilane, 3-aminopropyltriethoxysilane, N-phenyl-3-aminopropyltrimethoxysilane, N-phenyl-3-aminopropyltriethoxysilane, N-butyl-3-aminopropyltrimethoxysilane, N-butyl-3-aminopropyltriethoxysilane, N-methyl-3-aminopropyltrimethoxysilane, N-methyl-3-aminopropyltriethoxysilane, N-(2-aminoethyl)-3-aminopropyltrimethoxysilane, N-(2-aminoethyl)-3-aminopropyltriethoxysilane, N,N-di(2-aminoethyl)-3-aminopropyltrimethoxysilane, N,N-di(2-aminoethyl)-3-aminopropyltriethoxysilane, N-[N'-(2-aminoethyl)-2-aminoethyl]-3-aminopropyltrimethoxysilane, N,N-di(2-aminoethyl)-3-aminopropyltriethoxysilane, N-[N'-(2-aminoethyl)-2-aminoethyl]-3-aminopropyltrimethoxysilane, 3-aminopropylmethyldimethoxysilane, 3-aminopropylmethyldiethoxysilane, N-butyl-3-aminopropylmethyldimethoxysilane, N-butyl-3-aminopropylmethyldiethoxysilane, N-(2-aminoethyl)-3-aminopropylmethyldimethoxysilane, N-(2-aminoethyl)-3-aminopropylmethyldiethoxysilane, N,N-di(2-aminoethyl)-3-aminopropylmethyldimethoxysilane, N-[N'-(2-aminoethyl)-2-aminoethyl]-3-aminopropylmethyldimethoxysilane, N,N-di(2-aminoethyl)-3-aminopropylmethyldiethoxysilane, and N-[N'-(2-aminoethyl)-2-aminoethyl]-3-aminopropylmethyldiethoxysilane.

Claim 4 (Currently Amended): The composition as claimed in ~~any of claims 1 to 3~~ claim 1, wherein component (iii) is an aliphatic or aromatic polyol.

Claim 5 (Currently Amended): The composition as claimed in ~~any of claims 1 to 4~~ claim 1, wherein component (iii) comprises glucose, xylitol, mannitol, sorbitol, resorcinol, pyrogallol, hydroquinone, salicylic acid, or glycerol.

Claim 6 (Currently Amended): The composition as claimed in ~~any of claims 1 to 5~~ claim 1, which comprises a component (iv) selected from the series tetraethoxysilane, oligomeric tetraalkoxysilane, propyltrimethoxysilane, propyltriethoxysilane, octyltrimethoxysilane, octyltriethoxysilane, alcoholic and/or aqueous compositions of oligomeric cocondensates composed of aminoalkylalkoxysilanes and of fluoroalkylalkoxysilanes, and also oligomeric condensates or cocondensates composed of alkylalkoxysilanes and/or of vinylalkoxysilanes.

Claim 7 (Currently Amended): The composition as claimed in ~~any of claims 1 to 6~~ claim 1, which comprises a component (v) selected from the series group consisting of silica (precipitated or fumed), silicates, aluminum oxides, aluminum oxide hydroxides, and aluminum hydroxide.

Claim 8 (Currently Amended): The composition as claimed in ~~any of claims 1 to 7~~ claim 1, wherein the organic solvent is a straight-chain or branched, aliphatic or cycloaliphatic or araliphatic or aromatic alcohol.

Claim 9 (Currently Amended): The composition as claimed in ~~any of claims 1 to 8~~ claim 1, which comprises photoinitiator.

Claim 10 (Currently Amended): The composition as claimed in ~~any of claims 1 to 9~~ claim 1, which comprises from 10 to 60% by weight of solids.

Claim 11 (Currently Amended): A process for preparing an organosilane-based composition for producing a barrier layer for gases as claimed in ~~any of claims 1 to 10~~ claim 1, which comprises:

- a) mixing together components (i), (ii), (iii), where appropriate (iv), where appropriate solvents and water, and permitting the mixture to react at room temperature; or
- b) forming an initial charge from components (i), (ii), and, where appropriate, (iv), heating the mixture, adding component (iii), where appropriate dissolved in a solvent, and adding water, and permitting the mixture to react at reflux; or
- c) forming an initial charge from components (i), (ii), where appropriate (iv), where appropriate solvents, and, where appropriate, component (v), with thorough mixing, heating the mixture, adding component (iii), where appropriate dissolved in a solvent, and adding water, and permitting the mixture to react at reflux; or
- d) dispersing fine-particle silica in vinylsilane, adding the other components, and reacting the mixture at room temperature or at reflux,

wherein there is a molar ratio (i) : (ii) : (iii), wherein (i) = 1 and (ii) = from 0.5 to 1.5 and (iii) = from 0.3 to 1.1.

Claim 12 (Original): The process as claimed in claim 11, wherein use is made of from 0.5 to 1.8 mol of water per mole of silicon of components (i), (ii), and (iv).

Claim 13 (Currently Amended): The process as claimed in claim 11 ~~or 12~~, wherein the amount used of component (v) is from 0.01 to 40% by weight, based on the entirety of components (i) to (iv).

Claim 14 (Currently Amended): The process as claimed in ~~any of claims 11 to 13~~ claim 11, wherein the reaction is carried out at a temperature in the range from 10 to 90°C and for a period of from 1 to 36 hours.

Claim 15 (Currently Amended): ~~The use of a~~ A composition as claimed in ~~any of claims 1 to 10~~ claim 1 or of a composition obtainable as claimed in ~~any of claims 11 to 14~~ claim 11 for producing a radiation-cured barrier layer for gases on a packaging material composed of plastic, paper, cardboard, or paperboard.

Claim 16 (Currently Amended): ~~The use of a~~ A composition as claimed in ~~any of claims 1 to 10~~ claim 1 or a composition obtainable as claimed in ~~any of claims 11 to 15~~ claim 11 for producing a radiation-cured barrier layer for gases, wherein at least one further coating capable of curing by a thermal, free-radical, or radiation method is applied as an outer layer to the barrier layer.

Claim 17 (Original): The composition use as claimed in claim 16, wherein to produce the outer layer a coating composition is applied which comprises a binder curable by UV radiation or electron beams and comprises inorganic lamellar particles, wherein either the outer layer material is applied to the cured first barrier layer and then is cured or the first barrier layer and the outer layer are applied wet-on-wet and cured together.

Claim 18 (Currently Amended): The composition ~~use~~ as claimed in claim 16 ~~or 17~~, wherein the binder of the coating composition for the outer layer has been selected from the group consisting of acrylates, urethane-derived acrylates, epoxy-derived acrylates, cycloaliphatic epoxides, and polyepoxides.

Claim 19 (Currently Amended): The composition ~~use~~ as claimed in ~~any of claims 16 to 18~~ claim 16, wherein the lamellar particles have been selected from the group consisting of the phyllosilicates or of the lamellar metal pigments.

Claim 20 (Currently Amended): The composition ~~use~~ as claimed in ~~any of claims 16 to 19~~ claim 16, wherein the further coating applied comprises a lacquer which comprises not only a photoinitiator but also, as further components, at least one reaction product derived from fine pulverulent silicate, organofunctional silane, and water.

Claim 21 (Currently Amended): A packaging material composed of plastic, paper, cardboard, or paperboard, which has been coated with a barrier layer composed of a cured composition as claimed in ~~any of claims 1 to 10~~ claim 1.

Claim 22 (Original): The packaging material as claimed in claim 21, which has been coated with a further cured outer layer which has been arranged on the barrier layer and has been produced by applying and curing a coating composition which comprises a binder curable by UV radiation or electron beams and comprises inorganic lamellar particles.

Claim 23 (Currently Amended): The packaging material as claimed in claim 21 ~~or 22~~, which is sheet-like and takes the form of foils, sheets, or webs.

Claim 24 (Currently Amended): The packaging material as claimed in claim 21 or 22, which takes the form of three-dimensional hollow articles.